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Matthew M Terry

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NOVAK DRUCE DELUCA + QUIGG LLP

1300 EYE STREET NW

SUITE 1000 WEST TOWER

WASHINGTON, DC 20005

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JOHNSON, STEPHEN

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MATTHEW M. TERRY and HAYDN N.G. WALDLEY

Appeal 2009-006402
Application 10/526,416
Technology Center 3600

Decided: March 10, 2010

Before LINDA E. HORNER, STEFAN STAICOVICI, and
KEN B. BARRETT, *Administrative Patent Judges*.

STAICOVICI, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Matthew M. Terry et al. (Appellants) appeal under 35 U.S.C. § 134 (2002) from the Examiner's decision rejecting claims 1-9, 12-14, and 16-38. Claims 10, 11, and 15 have been withdrawn by the Examiner. We have jurisdiction over this appeal under 35 U.S.C. § 6 (2002).

THE INVENTION

Appellants' invention relates to a blast (and impact) protection structure including a core 21 sandwiched between top and bottom facesheets 22 and 23, respectively, a hard facesheet 51 (*e.g.*, ceramic), and a ballistic fiber fabric layer 71 (*e.g.*, Kevlar). Spec. 4 and fig. 1.

Claim 1, is representative of the claimed invention and reads as follows:

1. A protection structure comprising:

open cell core structure;

a top face sheet coupled to said core structure;

a bottom face sheet coupled to said core structure
distal from said top face sheet;

a projectile arresting layer coupled to said top face
sheet distal from said core structure; and

a fragment catching layer coupled to said bottom
face sheet distal from said core.

THE REJECTIONS

The Examiner relies upon the following as evidence of unpatentability:

Brown	US 4,529,640	Jul. 16, 1985
Groves	US 5,110,661	May 5, 1992
Tippett	US 2001/0030023 A1	Oct. 18, 2001

The following rejections are before us for review:

The Examiner rejected claims 1, 8/1, 18/1, 19/1, 20/1, and 26 under 35 U.S.C. § 102(b) as anticipated by Brown.

The Examiner rejected claims 1-9, 12-14, 16, 18-21, and 23-38 under 35 U.S.C. § 102(b) as anticipated by Groves.

The Examiner rejected claims 17 and 22 under 35 U.S.C. § 103(a) as unpatentable over Groves and Tippett.

THE ISSUES

Appellants argue that because the element 14 of Brown is disclosed as a single element it cannot be both a face sheet and a fragment catching layer, as called for in each of independent claims 1 and 26. Br. 7-8. In response, the Examiner takes the position that because the element 14 of Brown is a multi-ply fabric, the fabric layer immediately adjacent the core 20 constitutes a “bottom face sheet” and the other fabric layers 18 constitute the claimed “fragment catching layer.” Ans. 5. Accordingly, the first issue presented for our consideration in the instant appeal is as follows:

Did the Examiner err in interpreting the fabric layer 18 immediately adjacent the core element 16 of Brown as the claimed “bottom face sheet”

and the other fabric layers 18 of inner structural element 14 as constituting the claimed “fragment catching layer”?

Appellants further argue that because the purpose of inner layer 12 of Groves is to spread the impact of the bullet trapped by outer component 11, the inner layer 12 of Groves does not constitute a projectile arresting layer/structure as called for by each of independent claims 1-3, 5, 7, 26-28, 30, and 32. Br. 9.¹ In response, the Examiner takes the position that the layers 31 of the inner component 12 of Groves’ body armor garment 10 “*inherently* act to arrest the movement of any projectile of sufficient velocity and design that makes it through the outer layer 11,” and as such constitutes a “projectile arresting layer/structure.” Ans. 6. Emphasis added. Accordingly, the second issue presented for our consideration in the instant appeal is as follows:

Did the Examiner err in finding that layers 31 of the inner component 12 of Groves’ body armor garment 10 *inherently* stop a projectile and as such constitute a “projectile arresting layer/structure”?

SUMMARY OF DECISION

We AFFIRM-IN-PART.

FINDINGS OF FACT

The following enumerated findings of facts (FF) are supported by at least a preponderance of the evidence. *Ethicon, Inc. v. Quigg*, 849 F.2d

¹ In independent claims 1-3, 5, 7, 26-28, 30, and 32, the phrase “projectile arresting layer” is used interchangeably with the phrase “projectile arresting structure.” As such, for the purpose of this appeal we shall refer to both as “projectile arresting layer/structure.”

1422, 1427 (Fed. Cir. 1988) (explaining the general evidentiary standard for proceedings before the Office).

1. Brown teaches a composite armor 10 including an outer structural element 12, an inner structural element 14, and a core element 16. Brown, col. 1, ll. 62-64 and sole Figure.
2. The inner structural element 14 includes a plurality of plies of ballistic grade woven roving fabric 18 impregnated in a resin matrix. Brown, col. 2, ll. 12-14 and sole Figure.
3. The inside facing surface 20b of the core 20 is bonded to the fabric laminate 14. Brown, col. 2, ll. 35-37 and sole Figure.
4. Groves teaches a body armor garment 10 having an outer component 11 forming a bullet trap and an inner component 12 capable of spreading the impact of the bullet trapped by the outer component 11. Groves, col. 3, ll. 4-8; col. 6, ll. 56-60; and fig. 1.
5. Groves further teaches that the outer component 11 “may be used separate from the particular disclosed inner component [12].” Groves, col. 3, ll. 7-9 and col. 6, ll. 60-63.
6. The inner component 12 of Groves’ body armor garment 10 is provided to spread the impact of the bullet being trapped in the outer component 11 and includes an outer flexible layer 27 made from a plurality of KEVLAR[®] sheets, an inner flexible layer 28 made from a plurality of KEVLAR[®] sheets, and at least one core 30. Groves, col. 6, l. 67 through col. 7, l. 13 and fig. 1.

7. Groves specifically teaches that when a user wears both the outer and the inner components 11 and 12, respectively, the user obtains protection from a bullet threat. Groves, col. 7, ll. 65-68. Groves further teaches using a second outer component 11 when a high velocity or a large mass bullet threat exists. Groves, col. 8, ll. 8-12.

OPINION

Issue (1)

Appellants have not presented arguments for the patentability of claims 8/1, 18/1, 19/1, 20/1, and 26 apart from claim 1. Therefore, in accordance with 37 C.F.R. § 41.37(c)(1)(vii) (2009), we select claim 1 as the representative claim to decide the appeal of the rejection of these claims, with claims 8/1, 18/1, 19/1, 20/1, and 26 standing or falling with claim 1.

At the outset, although we appreciate Appellants' position that Brown's element 14 constitutes a single element, we disagree that it has a single function. *See* Br. 8. As found above, the inner structural element 14 of the composite armor 10 of Brown includes a plurality of plies of ballistic grade woven roving fabric 18. FF 1 and 2. Furthermore, Brown teaches that inside facing surface 20b of the core 20 is *bonded* to the fabric laminate 14. FF 3. A person of ordinary skill in the art would have readily recognized that the fabric layer 18 immediately adjacent the core 12 of Brown has the double function of bonding the inner structural element 14 to the core 20 of Brown, and also, in conjunction with the remaining fabric layers 18, provides the protection function of Brown's armor 10. What a reference teaches or suggests must be examined in the context of the knowledge, skill,

and reasoning ability of a skilled artisan. What a reference teaches a person of ordinary skill is not limited to what a reference specifically “talks about” or what is specifically “mentioned” or “written” in the reference. *Syntex (U.S.A.) LLC v. Apotex, Inc.* 407 F.3d 1371, 1380 (Fed. Cir. 2005).

Moreover, although the individual plies 18 of the fabric laminate 14 of Brown are impregnated with resin (*see* FF 2), nonetheless, the fabric laminate 14 is not a monolithic block, but rather a composite fabric laminate formed from a plurality of individual fabric plies. The same person of ordinary skill in the art would have recognized that the resin merely bonds the multiple individual plies together to form the inner structural element 14.

Lastly, we note that Appellants’ reliance on our decision in *Ex Parte Kristensen*, 10 USPQ2d 1701 (Bd. Pat. App. & Inter. 1989) is misplaced. *See* Br. 7-8. In that case, we opined that when a claim directed to a device can be read to include the same element twice the claim *may* be indefinite. However, in the instant appeal, there is no issue regarding the indefiniteness of the claims on appeal. Moreover, there is no *per se* rule that “double inclusion” is improper in a claim. *In re Kelly*, 305 F.2d 909, 916 (CCPA 1962) (“Automatic reliance upon a ‘rule against double inclusion’ will lead to as many unreasonable interpretations as will automatic reliance upon a ‘rule allowing double inclusion’.” The governing consideration is not *double inclusion*, but rather is what is a reasonable construction of the language of the claims.”) Emphasis added.

In conclusion, we agree with the Examiner that the fabric layer 18 immediately adjacent the core element 20 of Brown constitutes the claimed “bottom face sheet” and the other fabric layers 18 of inner structural element 14 constitute the claimed “fragment catching layer.” Accordingly, the

rejection of claim 1, and claims 8/1, 18/1, 19/1, 20/1, and 26, standing or falling with claim 1, under 35 U.S.C. § 102(b) as anticipated by Brown, is sustained.

Issue (2)

The Examiner interprets the fabric layer 31 of the inner component 12 of Groves' body armor garment 10 as a projectile arresting layer/structure. Ans. 4. According to the Examiner, because the layers 31 of the inner component 12 are made from KEVLAR[®] sheets and "KEVLAR[®] layers [are] *inherently* designed to arrest projectiles," the layers 31 of the inner component 12 would inherently arrest the movement of a projectile. Ans. 6. Emphasis added.

Although we agree with the Examiner that Groves teaches that the layers 31 of the inner component 12 are made from KEVLAR[®] sheets (*see* FF 4), nonetheless, Groves specifically teaches that the purpose of outer component 11 is to act as a "bullet trap" and the purpose of inner component 12 is to spread the impact of the bullet trapped by the outer component 11. FF 4 and 6. Furthermore, although Groves teaches that the outer and inner components 11 and 12, respectively, may be worn separately (*see* FF 5), we could not find any portion in Groves, and the Examiner has not pointed to any portion, which teaches that the inner component 12 can be used separately as a "bullet trap," like the outer component 11. Just because the layers 31 of the inner component 12 are made from KEVLAR[®] sheets, it does not necessarily follow that the layers 31 of the inner component 12 can arrest the movement of a projectile, as contended by the Examiner. For example, other factors come into play, such as the number, the density, and the thickness of the KEVLAR[®] sheets. Inherency may not be established by

probabilities or possibilities. *In re Oelrich*, 666 F.2d 578, 581 (CCPA 1981) (quoting *Hansgird v. Kemmer*, 102 F.2d 212, 214 (CCPA 1939)). When a reference is silent about an asserted inherent characteristic, it must be clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. *Continental Can Co. v. Monsanto Co.*, 948 F.2d 1264, 1268 (Fed. Cir. 1991).

Furthermore, not only does Groves lack a specific teaching of using the inner component 12 separately as a “bullet trap,” Groves specifically teaches using *both* the outer and the inner components 11 and 12, respectively, for obtaining protection from a bullet threat, and moreover, even adding a second outer component 11 when a higher velocity or a larger mass bullet threat exists. FF 7.

In conclusion, we do not agree with the Examiner’s position that the layers 31 of the inner component 11 of Groves’ body armor 10 necessarily arrest an incoming projectile, and as such constitute a “projectile arresting layer/structure.” Hence, we find that the Examiner has not provided sufficient evidence to support the finding that the layers 31 of the inner component 12 of Groves’ body armor garment 10 necessarily arrest the movement of a projectile so as to constitute a “projectile arresting layer/structure,” as called for by each of independent claims 1-3, 5, 7, 26-28, 30, and 32. Accordingly, the rejection of claims 1-9, 12-14, 16, 18-21, and 23-38 under 35 U.S.C. § 102(b) as anticipated by Groves cannot be sustained.

With respect to claims 17 and 22, the teachings of Tippet do not overcome the deficiency of Groves as described above. Therefore, the

rejection of claims 17 and 22 under 35 U.S.C. § 103(a) as unpatentable over Groves and Tippett likewise cannot be sustained.

CONCLUSIONS

1. The Examiner did not err in interpreting the fabric layer 18 immediately adjacent the core element 16 of Brown as the claimed “bottom face sheet” and the other fabric layers 18 of inner structural element 14 as constituting the claimed “fragment catching layer.”
2. The Examiner erred in finding that the layers 31 of the inner component 12 of Groves’ body armor garment 10 *inherently* stop a projectile and as such the layers 31 do not constitute a “projectile arresting layer/structure.”

DECISION

The Examiner’s decision to reject claims 1, 8/1, 18/1, 19/1, 20/1, and 26 under 35 U.S.C. § 102(b) as anticipated by Brown is affirmed.

The Examiner’s decision to reject claims 1-9, 12-14, 16, 18-21, and 23-28 under 35 U.S.C. § 102(b) as anticipated by Groves is reversed.

The Examiner’s decision to reject claims 17 and 22 under 35 U.S.C. § 103(a) as unpatentable over Groves and Tippett is reversed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv) (2007).

AFFIRMED-IN-PART

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Application 10/526,416

NOVAK DRUCE DELUCA + QUIGG LLP
1300 EYE STREET NW
SUITE 1000 WEST TOWER
WASHINGTON, DC 20005